VOL 7 NO 3 JUL-SEP 2004

NAVAL MEDICAL SURVEILLANCE REPORT

NMSR

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From the Population Health Director

CAPT Bruce K. Bohnker, MC, USN (FS)

As autumn arrives in Norfolk, NEHC Population Health has been very busy. We have welcomed CDR Jim LaMar as the new Department Head for Medical Surveillance and Clinical Epidemiology, and CDR Bill Upham as the new Department Head for Environmental Health. We have also welcomed several new contract epidemiologists. Ginelle Edmondson arrived to work with LCDR Von Thun and help with the Post Deployment Health Assessment (PDHA) program. Jill Sheets is working with the Laboratory Surveillance Program in the DoD GEIS program. Christie Lawson is working part time on DoD GEIS and related projects. They offer some extra help, replacing Debra Collier who left in August to be closer to her home. Lynn Wiederhold has left the clinical epidemiology team to pursue some teaching and training efforts. Dr. Dell has been busy orientating these new personnel with able assistance from Ms. Wendi Suesz Bowman. They have been assisted by other staff members including Becky Washburn, Nancy Branch, and Asha Riegodedios.

Several other projects continue to be of interest to the staff. Dr. Dell has been working with the NAVMEDCEN Portsmouth Orthopedic Department and New York University's Occupational and Industrial Orthopedics Center on a National Institues of Health grant proposal to assess the return to work efficacy of various non-specific low back pain treatment programs. That proposal should help to better define processes to improve our return to work program within Navy Medicine. Orthopedic injuries continue to be the leading cause of medically related discharges from the service. Programs for improved PDHA and Individual Medical Readiness (IMR) have demanded ongoing support and initiatives to meet taskers from the DoD level.

The Health Promotion (HP) Team has been busy supporting the "Get Moving Navy" initiative and "Oceana-Dam Neck IN MOTION", as well as the HP Directors course in September. We are working with workgroups that focus on high risk medical patients, active duty personnel on the Fitness Enhancement Program (FEP), command support, and nutritional assistance. The program continues to receive high level interest and support.

We are putting together the program for the NEHC Conference that will be in Virginia Beach from 12-18 February 2005. Please mark your calendars for that important conference, and it is not too early to start working on award nominations. Discussion in the command suggests that conferences after 2005 will likely be co-hosted with the US Army Force Health Protection Conference.

Finally, we were saddened to see the damages done by Hurricane Ivan on Pensacola. That historic city has a long Navy heritage, particularly within the aviation community. We continued to be blessed with protection and safety for worldwide NEHC staff currently deployed supporting the Global War On Terrorism, particularly our own CDR Malakooti and LCDR Killenbeck.

Naval Medical Surveillance Report

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Submissions and inquiries regarding content or material to be considered for publication should be directed to the Editor, Naval Medical Surveillance Report, Navy Environmental Health Center, Population Health Directorate, 620 John Paul Jones Circle Suite 1100, Portsmouth, VA 23708-2103. Guidelines for submissions are located at http://www-nehc.med.navy.mil/prevmed/epi/nmsrpage.htm or e-mail epi@mar.nehc.med.navy.mil. To be added to the mailing list, contact the Navy Environmental Health Center at DSN 377-0702 Comm: (757) 953-0702.

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Outbreak of Group A Beta Hemolytic Streptococcus Pharyngitis Among Marine Corps Trainees

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Background

Group A Beta Hemolytic Streptococcus (GABHS) has historically been a cause of morbidity and mortality among military basic trainees and, by instruction, is controlled with benzathine penicillin G (BPG) prophylaxis. Advanced individual training (AIT) students generally are not as high risk for GABHS disease as basic trainees. Consequently, there is no standard or instruction governing GABHS surveillance or BPG prophylaxis among AIT students. Traditional risk factors for respiratory disease among recruit populations include increased numbers of recruits, decreased living area/crowded conditions, mixing of training cohorts, and lack of prophylaxis for penicillin (PCN) allergic trainees.

Methods

An outbreak investigation was conducted among the Marine AIT students at Fort Leonard Wood in February of 2003. Cases were identified as those with GABHS+ throat cultures in the local Composite Health Care System (CHCS) host's lab results tables during the first eight weeks of 2003. Demographic information and prophylaxis status were obtained on identified cases. Barracks and population data were obtained from the USMC command. Results reported here reflect 7-day GABHS(+) cultures per 1000 trainee-weeks.

Results

Table 1 shows the distribution of cases and all USMC AIT trainees for select factors during the outbreak period (the first eight weeks of 2003). Wood barracks were of the open squad bay type, while brick barracks were dormitory type with 4, 3 or 2 trainees per room. Results indicate a significant association between over-crowding in the brick barracks and GABHS+ pharyngitis. Cases were identified in each of the training cadres: engineers (EE), military police (MP)/Nuclear Biological and Chemical (NBC), and motor transport (MT). Two Marine Corps Recruit Depots feed into Marine AIT. Results indicate that there were a significantly higher number of cases among AIT recruits who came from Parris Island as compared to recruits who came from San Diego.

Figure 1 shows the epidemic curve for the outbreak period noting significant events. There was a sudden increase in the trainee population after Christmas and New Year break. An initial increase in the number of cases was noted among MT trainees, resulting in targeted intervention. Seventeen cases did not receive bicillin prophylaxis because they arrived after their training company underwent mass prophylaxis (n=9), or they were identified as PCN allergic (n=3), or both (n=5). Four cases occurred among individuals recently prophylaxed with BPG (13, 14, 17 and 19 days post BPG).

The maximum seven-day GABHS (+) culture rate among symptomatic pharyngitis trainees was 18.6 GABHS+/1000 trainee-weeks for the MP trainees (Figure 2). EE and MT trainees peaked at a weekly rate of 16.7 GABHS+/1000 trainee-weeks, and 14.2 GABHS+/1000 trainee-weeks respectively. Mass BPG prophylaxis intervention began prior to the overall rate exceeding the action level of 10/1000 trainee-weeks.

The outbreak initially responded to mass prophylaxis, but increased crowding as a result of moving barracks was related to a second GABHS spike (Figure 3). During the initial few weeks of 2003, a surge in trainee population resulted in crowding (i.e., decreased square-foot per trainee); this situation was further exacerbated by the loss of several older, open bay barracks. Corresponding to the decreased living area is the increased GABHS activity.

Additionally, the second spike in the epidemic curve is 2-3 weeks after BPG administration. It is likely that PCN-allergic students and recent arrivals re-introduced GABHS to the general trainee population. Penicillin-allergic trainees comprised 6% of the population, but 14.9% of cases.

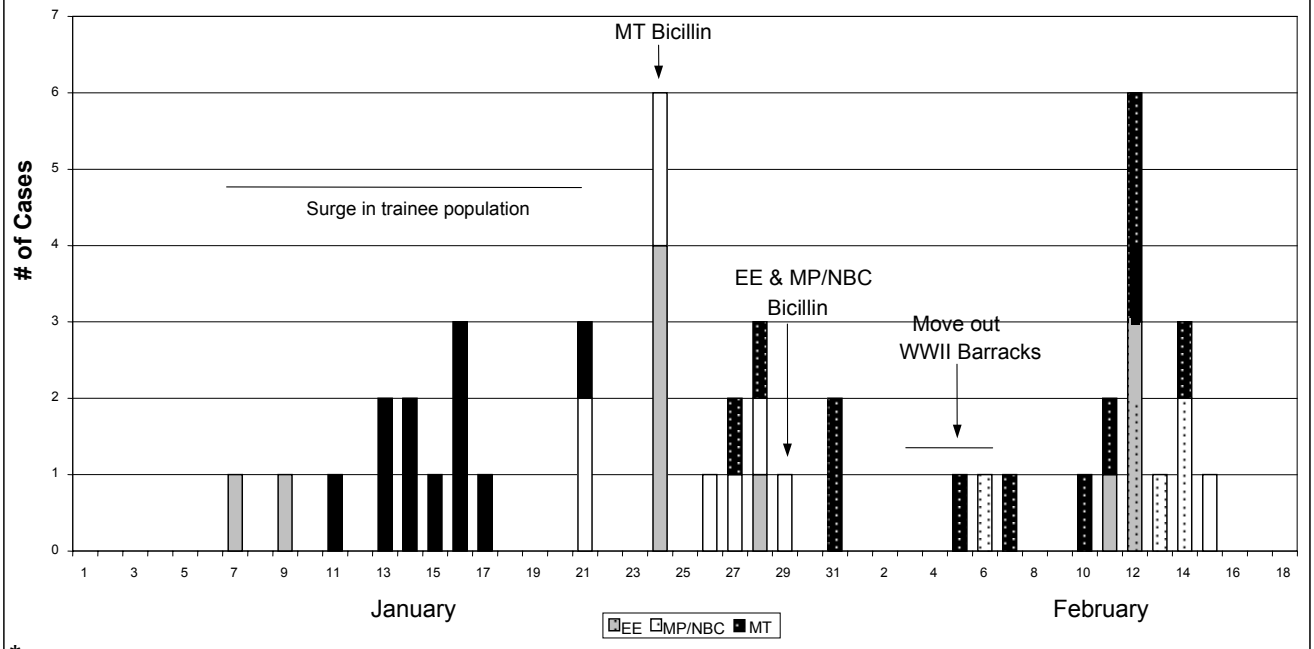
Table 1. Distribution of cases and overall Marine AIT population among USMC AIT students at Fort Leonard Wood during the first eight weeks of 2003

	Cases N (%)	Overall N (%)	Relative Risk	95% CI
Gender				
Male	44 (93.6)	1200 (95.5)	1	--
Female	3 (6.4)	56 (4.5)	1.46	0.29 – 4.56
Barracks Type				
Wood	4 (8.5)	300 (25.0)	1	--
Brick	33 (70.2)	900 (75.0)	2.75	0.98 – 10.68
Unknown	10 (21.3)			
Penicillin Allergic				
Yes	7 (14.9)	80 (6.2)	1	--
No	40 (85.1)	1120 (93.80)	0.38	0.17 – 1.01
Location of Boot Camp				
San Diego	16 (34.0)	600 (50.0)	1	--
Parris Island	31 (66.0)	600 (50.0)	1.94	1.03 – 3.79
Living Space per Trainee				
Unknown	10 (21.3)			
65 sqft (four per room)	24 (51.5)	300 (25.0)	1	--
73 sqft (open bay)	4 (8.5)	200 (16.7)	0.25	0.06 – 0.73
87 sqft (three per room)	7 (14.9)	650 (54.2)	0.13	0.05 – 0.32
130 sqft (two per room)	2 (4.3)	50 (4.2)	0.5	0.06 – 2.01
Training Program				
Engineer (EE)	11 (23.4)	300 (25.0)	1	--
Military Police (MP)/NBC	13 (27.7)	300 (25.0)	1.18	0.49 – 2.91
Motor Transport (MT)	23 (48.9)	600 (50.0)	1.14	0.54 – 2.56

Conclusions/Discussion

Traditional risk factors for respiratory disease among recruits were present in this outbreak of GABHS pharyngitis among USMC AIT students. In particular, decreased living space and crowding were integral factors. Additionally, mass prophylaxis solely among non-PCN allergic trainees did not fully control the outbreak in light of further crowding and mixing of cohorts - activities that could not be avoided due to mass troop mobilizations in support of Operation Iraqi Freedom. Consideration should be given to increasing the scope of current instructions governing Group A Streptococcus surveillance and control to include other populations where crowding puts them at increased risk of respiratory disease, such as those in advanced training and those mobilizing for deployment.

Figure 1. Epi Curve for GABHS Pharyngitic Cases



*Bars with dots on top reflect individuals that did not receive bicillin prophylaxis.

Figure 2. Overall and Training Company-Specific Group A Strep Rate

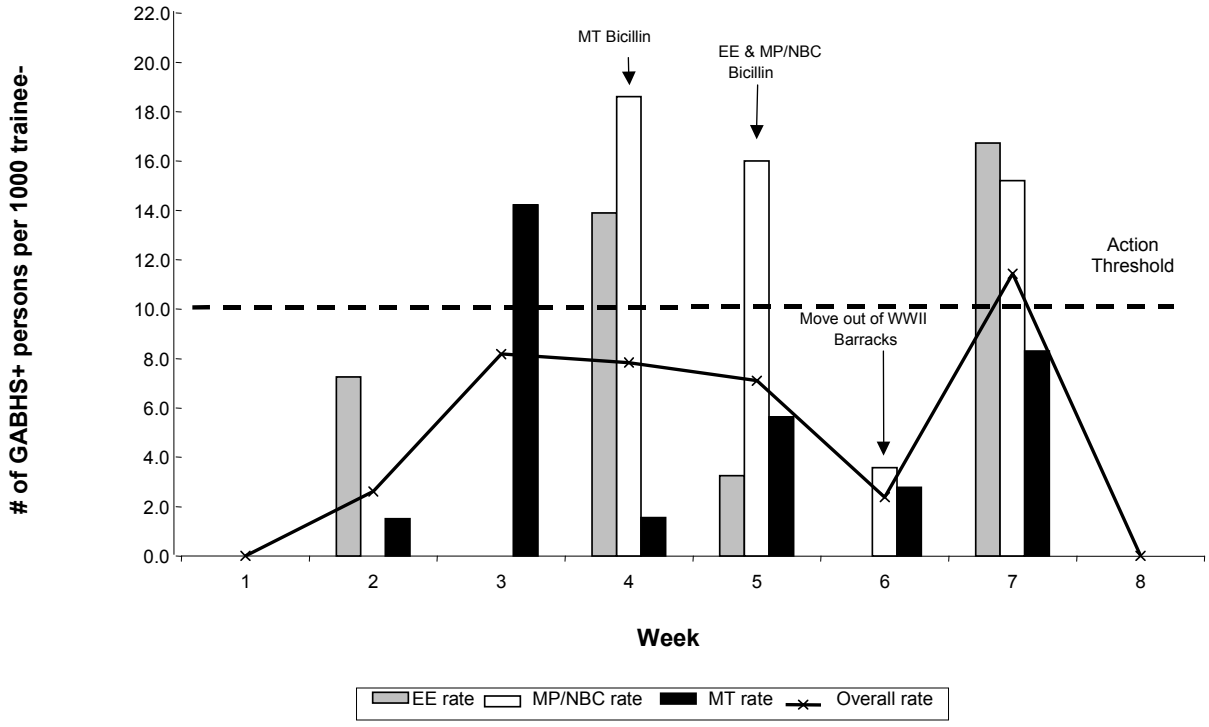
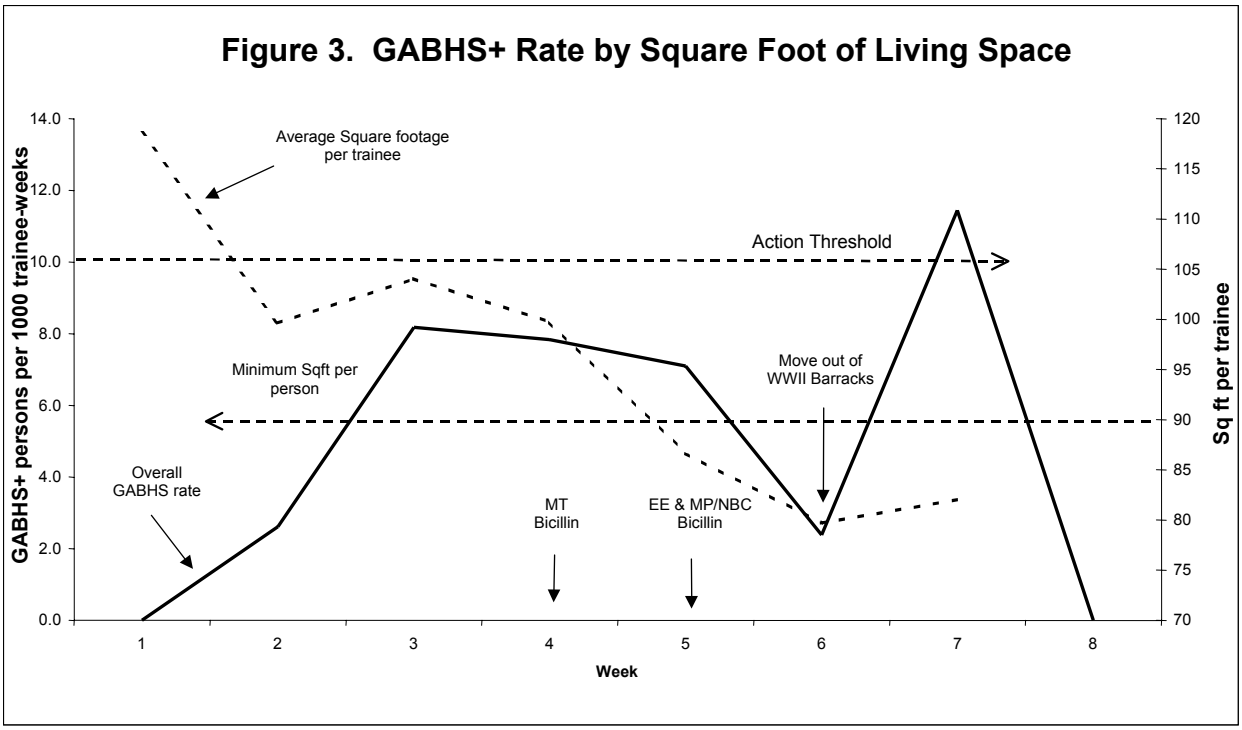


Figure 3. GABHS+ Rate by Square Foot of Living Space



Summary of Needle Stick Reports in INJTRAK, Fiscal Year 2002

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Introduction

Needlestick injuries are a continuing problem for healthcare workers across the United States. Epidemiological studies suggest that less than one-half of needlestick injuries are reported (1,2), indicating that a large number of healthcare workers may not be receiving appropriate medical care and prophylaxis following such an injury. The Naval Safety Center in Norfolk VA (website: http://www.safetycenter.navy.mil/) provides surveillance for accidents and injuries (including needlesticks) for the Navy and Marine Corps. The purpose of this article is to provide a brief descriptive summary of needlestick injuries reported to the Naval Safety Center.

The INJTRAK data for injuries was obtained from the Naval Safety Center for a fiscal year (FY) 2002 (October 2001-September 2002). Needlestick injury reports (Bureau of Labor Statistics Occupational Injury and Illness Event/Exposure Code of 3431) occurring among Navy active duty members were selected for analysis. Due to the potential for various reporting biases and under-reporting, we chose to present data as counts rather than actual rates.

Results

A total of 265 needlestick injuries among Navy active duty members were reported to the Naval Safety Center from October 2001 through September 2002. The majority of needlesticks occurred among males (60.8%) and personnel younger than 30 years old (73.8%) (Figure 1). Figure 2 presents the reported needlesticks by MTF. Figure 3 summarizes the needlesticks by occupation; hospital corpsmen experienced the highest number of injuries (57.0%), followed by medical officers/physicians (10.6%), and dental technicians (10.6%). The majority of needlesticks affected the fingers (Figure 4), with the hands and arms affected to a lesser extent.

Summary/Discussion

Needlesticks injuries are a significant health concern for Navy medicine because of the risk of bloodborne pathogen transmission. Results reported here are likely an underestimate of the true frequency of needlesticks. Nevertheless, this analysis provides some basic information regarding trends. Needlesticks are reported most commonly among hospital corpsmen and for personnel employed in larger hos-

pital settings. Prevention efforts and training regarding safe sharps practices should be directed at these populations.

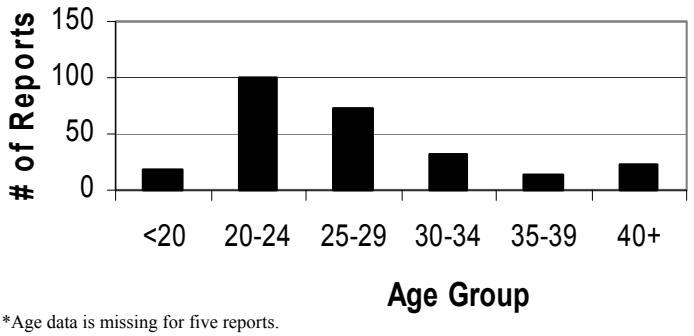
Safety is a command responsibility, and needlestick prevention is an important component for medical department personnel. Commands must select safer sharps devices and improve safety training for health care workers, particularly younger enlisted personnel. Commands should track needlestick injuries within their infection control programs and submit reports to the Naval Safety Center (via the WESS system) to support surveillance efforts and ensure proper prophylaxis when indicated.

References

1. Mangione CM, Gerberding JL, Cummings SR. Occupational exposure to HIV: frequency and rates of underreporting of percutaneous and mucocutaneous exposures by medical house staff. Am J Med. 1991 Jan; 90(1):85-90.

2. Osborn EHS, Papadakis MA, Gerberding JL. Occupational exposures to body fluids among medical students. A seven-year longitudinal study. Ann Intern Med 1999; 130(1):45-51.

Figure 1. Needlestick Reports by Age Group, FY 2002



*Age data is missing for five reports.

Figure 2. Needlestick Reports by MTF, FY 2002

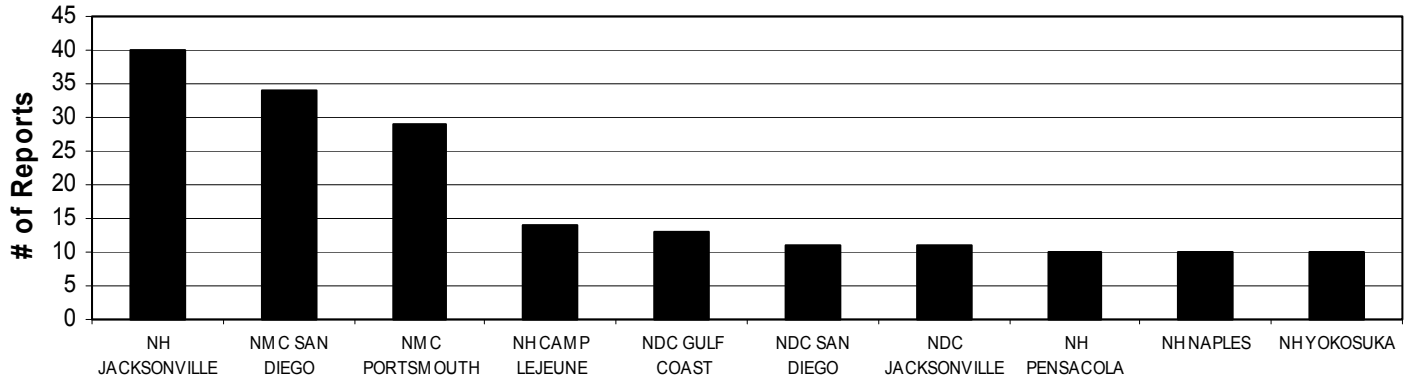


Figure 3. Needlestick Reports by Military Occupation, FY 2002

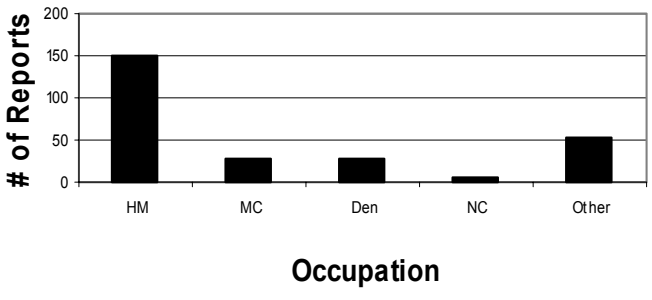
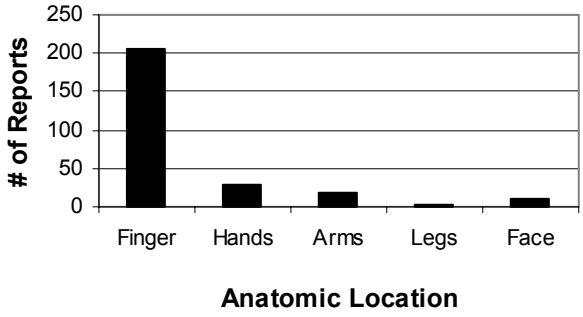


Figure 4. Needlestick Reports by Anatomic Location, FY 2002



Febrile Respiratory Illness Surveillance among Military Trainees

Anthony Hawksworth and CDR Kevin Russell, MC, USNR
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Introduction

Febrile respiratory illnesses (FRI), also known as acute respiratory disease (ARD) or influenza-like illness (ILI), have long been a problem in military populations, especially in recruit training camps. The use of vaccines and antibiotics have resulted in a decrease in FRI rates during the last 20 years; however, recent events have set the stage for increased FRI morbidity among military trainees.

Adenovirus: In 1958, it was estimated that adenoviruses (ADVs) infected 10% of military recruits and caused 90% of recruit pneumonia. From the early 1970s until 1998, the use of types 4 and 7 oral vaccines suppressed respiratory disease morbidity among newly assembled military personnel. However, the unavailability of vaccine since 1998 has resulted in the re-emergence of ADV as a significant cause of morbidity among military recruits. A new vaccine is being developed, but is not expected to become available until 2008. Since the loss of ADV vaccine, FRI rates among recruits have risen to levels not seen since the pre-vaccine era.

Influenza: The Department of Defense (DoD) is concerned about influenza for several reasons. U.S. military training populations have been subject to respiratory disease epidemics in the past, most notably during the influenza pandemic of 1918, when 43,000 U.S. troops died from the illness. DoD personnel are deployed worldwide, often in areas that have a high prevalence of influenza. Also, the military population is highly mobile, providing an excellent opportunity to spread influenza to a large number of people over a wide area. In 1997, 18 cases of H5N1 influenza A were found among residents of the Hong Kong area, resulting in 6 deaths. This strain of influenza is common in avian (bird) species, but had not previously been found to infect humans. This startling discovery raised concern that human-to-human transmission of H5N1 could result in a global influenza epidemic.

As the Navy node for the Department of Defense Global Emerging Infectious Disease Surveillance and Response System (DoD-GEIS), the Naval Health Research Center (NHRC) collaborates with numerous institutions to conduct active surveillance for respiratory pathogens such as Streptococcus pneumoniae, Streptococcus pyogenes, influenza, adenovirus, and other emerging threats to military training populations. A laboratory facility at NHRC conducts pathogen isolation and identification, preserves isolates, and performs Polymerase Chain Reaction (PCR) and serological tests. NHRC's expertise in respiratory pathogen identification is available to other DoD organizations in response to emerging diseases.

Surveillance Methods

FRI surveillance is ongoing at eight military training sites in the United States. Collaborators at each site monitor their training populations for FRI. Weekly counts are sent to investigators at NHRC, who calculate FRI rates for each site and publish them on the web. An FRI Rate Status is calculated and displayed each week to aid preventive medicine personnel in monitoring FRI among their trainees.The FRI Rate Status classifies rates into one of three categories: (1) at or below expected value, (2) moderately elevated, or (3) substantially elevated. This rapid dissemination of information provides an early warning system for detection of potential epidemics.

An FRI case is a trainee who seeks medical care and meets the following two criteria: (1) Fever - Oral temperature of > 100.5^{o} F (38^{o}F) or equivalent, and (2) Respiratory symptom (e.g., cough or sore throat). Also, any trainee who is diagnosed with pneumonia is considered a case of FRI.

Specimens are obtained from a systematic sample of trainees who have FRI and are sent to NHRC to be tested for adenovirus, influenza A/B, parainfluenza 1-3, and respiratory syncytial virus. Each training center is provided individual patient results for the specimens they submit.

Results

Since the loss of type 4 and 7 vaccines in 1998, ADV has dominated respiratory illness burden among military trainees. Figure 1 shows the burden of FRI and ADV morbidity among cases at the eight military training centers participating in this surveillance program. Figure 2 shows the distribution of viral test results received at NHRC since the beginning of the surveillance program. From June 1998 to March 2004, 64% of all specimens tested were positive for ADV with individual training sites showing a range of 48% to 77% (Figure 3). The proportion of FRI cases testing positive for ADV has remained consistently high during the six years of surveillance. Influenza has been seen at all eight participating training centers with Influenza A showing the most activity and Influenza B showing sporadic activity.

Figures 4 and 5 show ADV and Influenza infection rates, respectively, among the three Navy/MC training centers. Naval Recruit Training Center (NRTC) Great Lakes shows consistently higher rates of ADV infection as compared to both Marine Corps Recruit Depots (MCRDs).

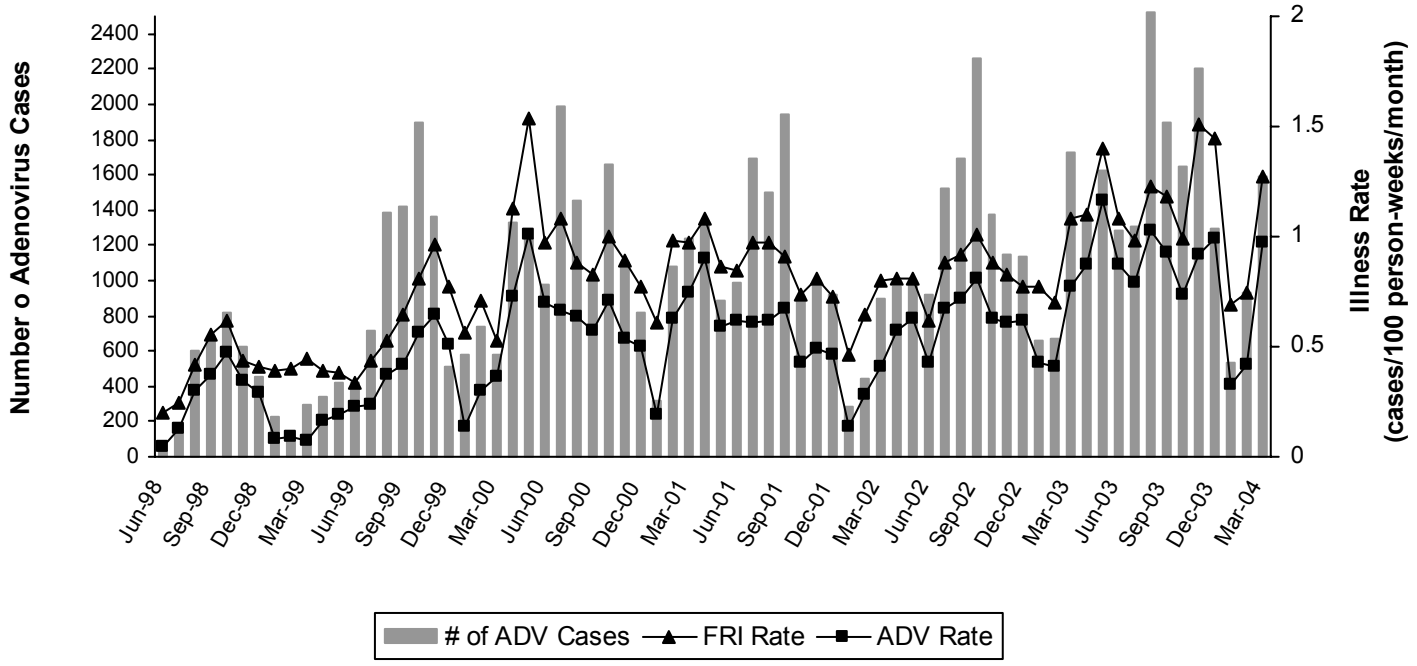
Conclusion/Discussion

FRI surveillance at recruit training centers has proved valuable in documenting the re-emergence of ADV morbidity since the vaccine was lost. Influenza surveillance among recruits is also important because a "breakthrough" strain would be readily identified in such a highly-vaccinated population. FRI rate status reports provide on-site preventive medicine personnel with early warning of potential FRI epidemics. These status reports continue to be improved according to the needs of individual training centers. The NHRC program will also be involved with the clinical trials for the new vaccine as it is developed.

Acknowledgements

The authors would like to thank Ms. Asha Riegodedios for support in drafting this article.

Figure 1. Combined Febrile Respiratory Illness (FRI) and Adenovirus (ADV) Morbidity Among Symptomatic Trainees at Eight Military Training Centers



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NAVAL DISEASE REPORTING SYSTEM (NDRS)

Summary of 2004 Data

Tables 1 and 2 display the Medical Event Reports (MERs) received at Navy Environmental Health Center (NEHC). Interested readers may calculate rates among Active Duty by dividing the

Table 1. ACTIVE DUTY Reportable Medical Events, Navy & Marine Corps, Case Frequencies, 01 Jan – 30 Sep 2004

Disease	Total	USN	USMC	Disease	Total	USN	USMC
Amebiasis*	0	0	0	Lyme Disease	5	1	4
Anthrax*	0	0	0	Malaria (specify type) *	7	6	1
Biological warfare agent exposure	0	0	0	Measles*	0	0	0
Bites, rabies vaccine & human rabies IG	23	17	6	Meningitis (aseptic, viral)	18	8	10
Bites, venomous animal	0	0	0	Meningitis (bacterial other than Meningococcus)	1	1	0
Botulism*	0	0	0	Meningococcal disease*	1	0	1
Brucellosis	0	0	0	Mumps	0	0	0
Campylobacteriosis*	4	3	1	Occupational exposure to blood borne pathogens	0	0	0
Carbon Monoxide poisoning*	0	0	0	Onchocerciasis	0	0	0
Chemical warfare agent exposure	0	0	0	Pertussis*	0	0	0
Chlamydia	1375	853	522	Plague*	0	0	0
Cholera	0	0	0	Pneumococcal pneumonia	0	0	0
Coccidioidomycosis	6	6	0	Poliomyelitis*	0	0	0
Cold injuries	0	0	0	Psittacosis (Ornithosis)	0	0	0
Cryptosporidiosis*	0	0	0	Q Fever*	0	0	0
Cyclospora*	0	0	0	Rabies, clinical human*	0	0	0
Dengue fever*	2	2	0	Relapsing fever	0	0	0
Diphtheria	0	0	0	Rheumatic fever	0	0	0
E. Coli 0157:H7 infection*	0	0	0	Rift Valley fever	0	0	0
Ehrlichiosis	1	0	1	Rocky-Mountain Spotted Fever	3	0	3
Encephalitis*	2	2	0	Rubella*	0	0	0
Filariasis	0	0	0	Salmonellosis*	6	3	3
Giardiasis	9	7	2	Schistosomiasis	0	0	0
Gonorrhea	277	160	117	Shigellosis*	0	0	0
Haemophilus influenza, type b	0	0	0	Smallpox*	0	0	0
Hantavirus infection*	0	0	0	Streptococcal disease, Group A	3	2	1
Heat injuries	98	15	83	Syphilis	32	28	4
Hemorrhagic fever*	0	0	0	Tetanus	0	0	0
Hepatitis, A (acute, symptomatic only)	1	1	0	Toxic shock syndrome	0	0	0
Hepatitis, B (acute, symptomatic only)	2	2	0	Trichinosis	0	0	0
Hepatitis, C (acute, symptomatic only)	5	4	1	Trypanosomiasis	0	0	0
Influenza (confirmed)	0	0	0	Tuberculosis, pulmonary active*	4	2	2
Lead poisoning	0	0	0	Tularemia*	0	0	0
Legionellosis*	1	1	0	Typhoid fever*	0	0	0
Leishmaniasis	6	5	1	Typhus*	0	0	0
Leprosy (Hansen's disease)	0	0	0	Urethritis (non gonococcal)	126	15	111
Leptospirosis*	0	0	0	Varicella	5	4	1
Listeriosis	0	0	0	Yellow fever	0	0	0

* Reportable with 24 hours

Data in the NMSR are provisional, based on reports and other sources of data available to the Navy Environmental Health Center. MERs are classified by date of report. Only cases submitted as confirmed are included.

frequencies by estimated mid-year strength of 376,772 for USN and 175,557 for USMC. Table 1 shows Active Duty only. Table 2 shows non-Active Duty Beneficiaries.

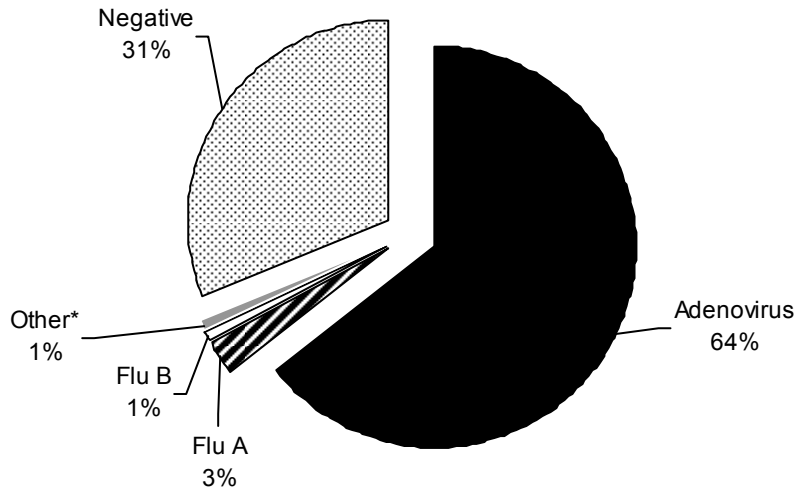
Table 2. BENEFICIARIES Reportable Medical Events, Navy & Marine Corps, Case Frequencies, 01 Jan – 30 Sep 2004

Disease	Total	USN	USMC	Disease	Total	USN	USMC
Amebiasis*	0	0	0	Lyme Disease	1	0	1
Anthrax*	0	0	0	Malaria (specify type) *	0	0	0
Biological warfare agent exposure	0	0	0	Measles*	0	0	0
Bites, rabies vaccine & human rabies IG	49	26	23	Meningitis (aseptic, viral)	18	13	5
Bites, venomous animal	0	0	0	Meningitis (bacterial other than Meningococcus)	3	3	0
Botulism*	0	0	0	Meningococcal disease*	1	1	0
Brucellosis	0	0	0	Mumps	0	0	0
Campylobacteriosis*	2	2	0	Occupational exposure to blood borne pathogens	0	0	0
Carbon Monoxide poisoning*	0	0	0	Onchocerciasis	0	0	0
Chemical warfare agent exposure	0	0	0	Pertussis*	0	0	0
Chlamydia	302	178	124	Plague*	0	0	0
Cholera	0	0	0	Pneumococcal pneumonia	0	0	0
Coccidioidomycosis	2	2	0	Poliomyelitis*	0	0	0
Cold injuries	0	0	0	Psittacosis (Ornithosis)	0	0	0
Cryptosporidiosis*	0	0	0	Q Fever*	0	0	0
Cyclospora*	0	0	0	Rabies, clinical human*	0	0	0
Dengue fever*	0	0	0	Relapsing fever	0	0	0
Diphtheria	0	0	0	Rift Valley fever	0	0	0
E. Coli 0157:H7 infection*	0	0	0	Rocky-Mountain Spotted Fever	1	0	1
Ehrlichiosis	0	0	0	Rubella*	0	0	0
Encephalitis*	1	1	0	Salmonellosis*	26	17	9
Filariasis	0	0	0	Schistosomiasis	0	0	0
Giardiasis	1	1	0	Shigellosis*	3	1	2
Gonorrhea	32	20	12	Smallpox*	0	0	0
Haemophilus influenza, type b	2	1	1	Streptococcal disease, Group A	7	5	2
Hantavirus infection*	0	0	0	Syphilis	7	7	0
Heat injuries	3	3	0	Tetanus	0	0	0
Hemorrhagic fever*	0	0	0	Toxic shock syndrome	1	0	1
Hepatitis, A (acute, symptomatic only)	0	0	0	Trichinosis	0	0	0
Hepatitis, B (acute, symptomatic only)	4	3	1	Trypanosomiasis	0	0	0
Hepatitis, C (acute, symptomatic only)	5	5	0	Tuberculosis, pulmonary active*	5	5	0
Influenza (confirmed)	4	3	1	Tularemia*	0	0	0
Lead poisoning	0	0	0	Typhoid fever*	0	0	0
Legionellosis*	0	0	0	Typhus*	0	0	0
Leishmaniasis	1	1	0	Urethritis (non gonococcal)	0	0	0
Leprosy (Hansen's disease)	0	0	0	Yellow fever*	0	0	0
Leptospirosis*	0	0	0				
Listeriosis	0	0	0				

* Reportable with 24 hours

Continued from page 9

Figure 2. Proportional Distribution of Viral Test Results
June 1998 - March 2004, n=14,916



*RSV and parainfluenza 1, 2, and 3

Figure 3. Distribution of Viral Test Results by Site
June 1998 - March 2004, n=14,916

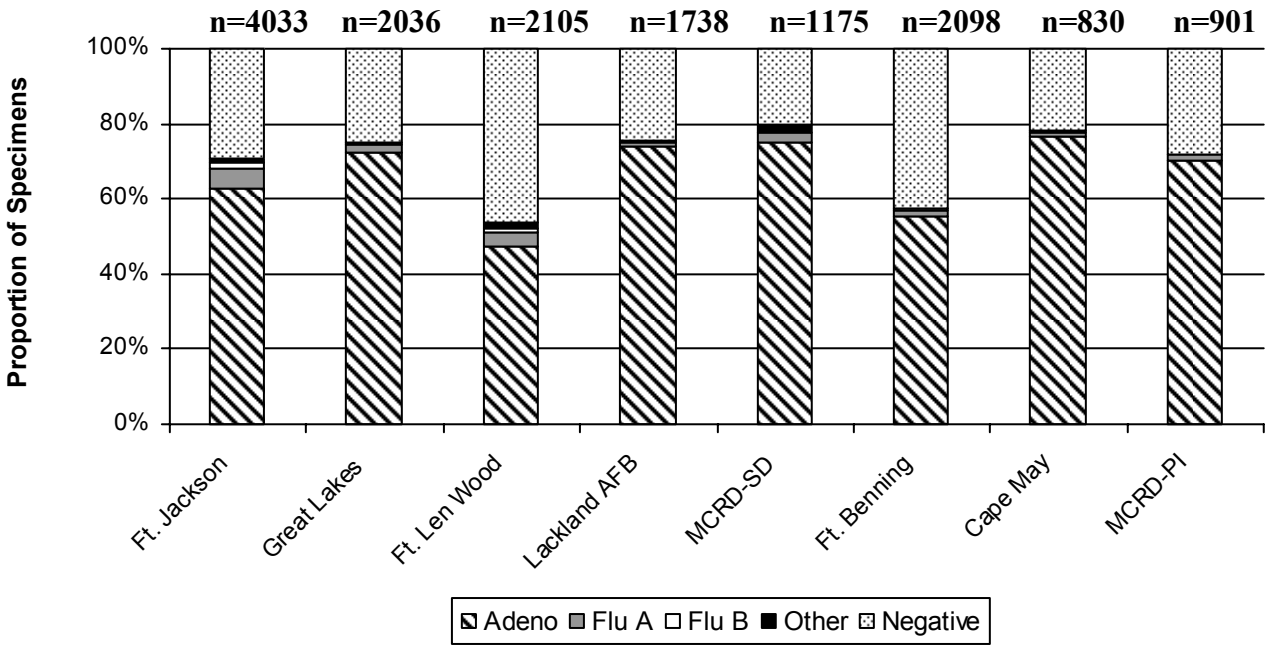


Figure 4. Adenovirus Infection Rates at Navy/MC Basic Training Centers

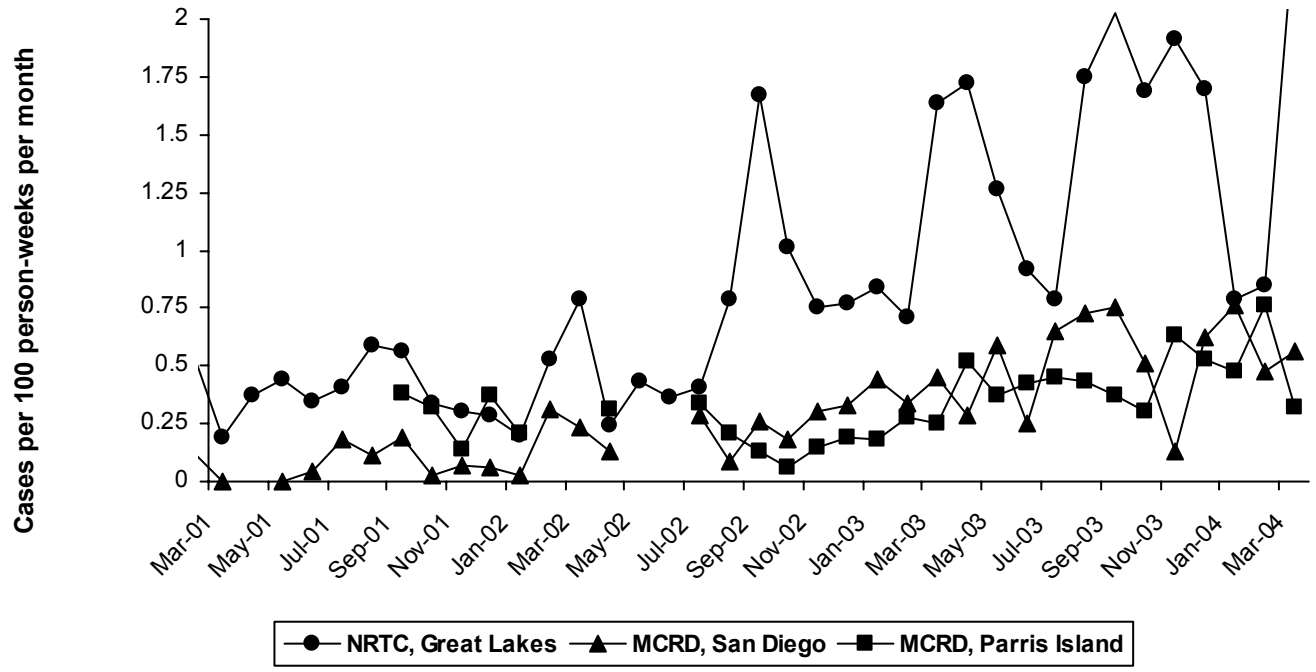
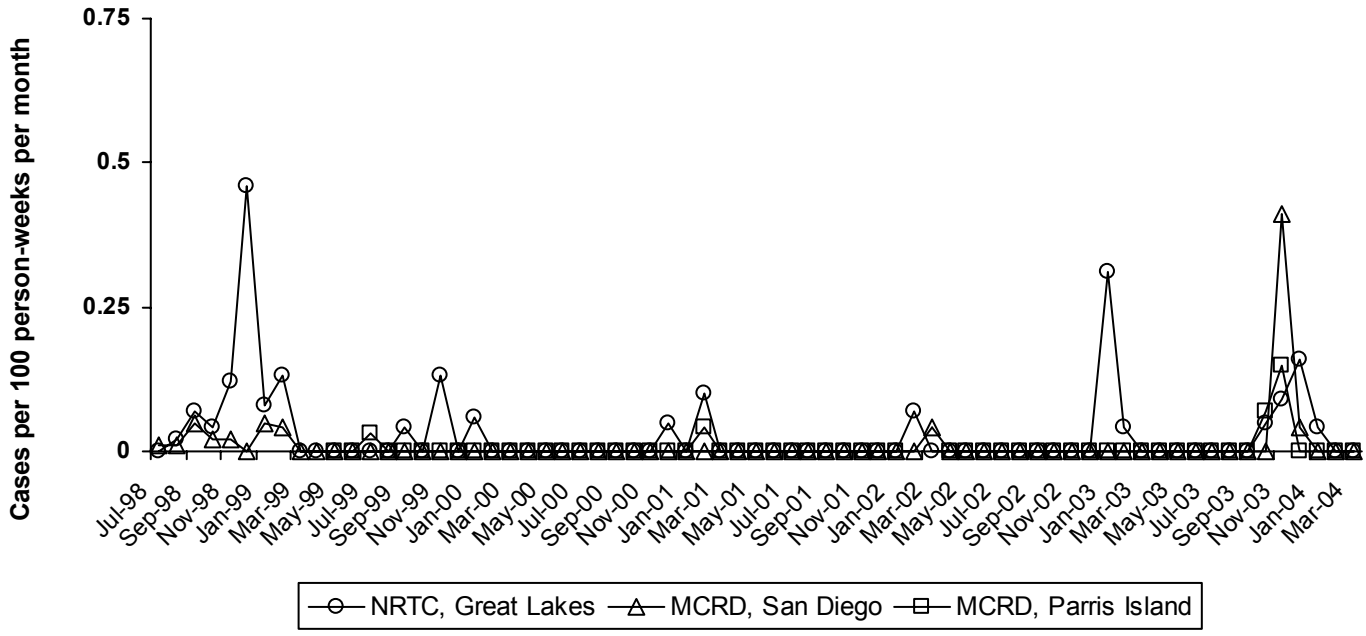


Figure 5. Influenza Infection Rates at Navy/MC Basic Training Centers



Annual Tuberculosis Report, Calendar Year 2003

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Activities with medical department personnel and ships of the Military Sealift Command shall prepare an annual tuberculosis (TB) screening summary report, and submit to the cognizant Navy Environmental and Preventive Medicine Unit (NEPMU) by 01 February the following year according to BUMEDINST 6224.8. The NEPMU's collect and analyze the data and, in turn, forward the reports to the Navy Environmental Health Center (NEHC) by April 15. This report is separate from the urgent reporting of suspected and confirmed cases of TB disease, which are reportable conditions, and require submission of Medical Event Reports via the Navy Disease Reporting System (NDRS) according to BUMEDINST 6220.12A.

This report summarizes results of the Department of Navy TB screening program using the annual screening summary reports from calendar year (CY) 2003. Table 1 shows the estimated percentage of reporting compliance by service. Figures 1 and 2 show the distribution of personnel tested and the Tuberculin Skin Test (TST) conversion rate by NEPMU, respectively. Table 2-6 present TB screening results for select commands.

Table 1. Estimated Completeness of TB Screening Reporting by Service

	Total Personnel Strength*	Number of Personnel Reported	Percent of Personnel Reported
USN	381,802	288,377	75.53
USMC	176,775	140,588	79.53

*Personnel strength as reported from the Directorate for Information Operations and Reports (DIOR), CY 2003 Military statistics (www.dior.whs.mil).

Figure 1. Distribution of Reported Personnel Tested

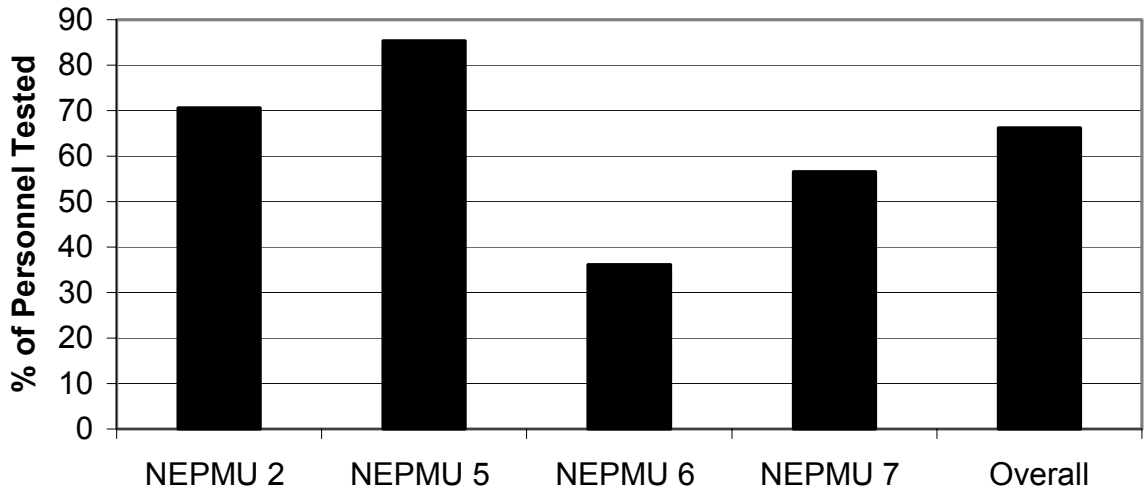

Figure 2. TST Conversion Rate by NEPMU

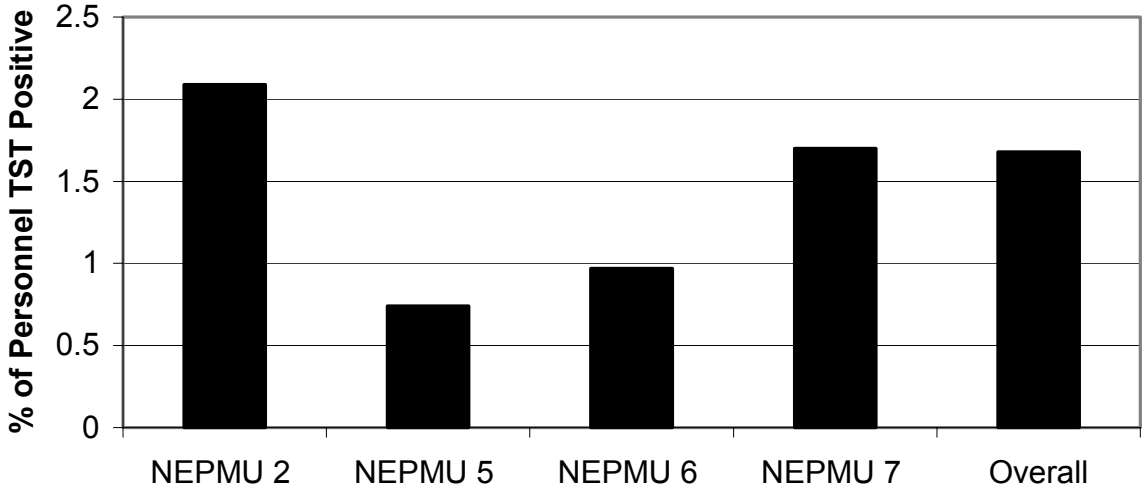

Table 2. Summary of 2003 TB Screening Reports by NEPMU's

Command Reporting	Total Personnel Reported	Percent Tested*	New Reactors Identified	TST Conversion Rate (%)	Percent of New Reactors on INH*	Active TB Cases
NEPMU 2	262,134	70.62	3785	2.09	95.06	5
NEPMU 5	72,609	85.32	434	0.74	96.31	14
NEPMU 6	77,625	36.13	265	0.97	86.79	1
NEPMU 7	16,597	56.57	154	1.70	105.84	2
TOTAL	**428,965**	**66.25**	**4638**	**1.68**	**95.06**	**22**

* Percentages may reflect testing of non-assigned personnel or retesting as a result of identified suspect TB cases.

Table 3. Details of 2003 Reports received from Aircraft Carriers

Command Reporting	Percent Tested*	New Reactors Identified	TST Conversion Rate (%)	Active TB Cases
USS ABRAHAM LINCOLN (CVN 72)	77.80	1	0.04	0
USS CARL VINSON (CVN 70)	97.95	3	0.10	0
USS CONSTELLATION (CV 64)	DID NOT REPORT			
USS DWIGHT D EISENHOWER (CVN 69)	95.80	2	0.07	0
USS ENTERPRISE (CVN 65)	99.67	11	0.34	0
USS GEORGE WASHINGTON (CVN 73)	72.82	13	0.58	0
USS HARRY S TRUMAN (CVN 75)	79.80	5	0.20	0
USS JOHN C STENNIS (CVN 74)	85.83	3	0.12	0
USS JOHN F KENNEDY (CV 67)	34.51	12	1.09	0
USS KITTY HAWK (CV 63)	96.99	8	0.30	0
USS NIMITZ (CVN 68)	74.58	13	0.58	0
USS RONALD REAGAN (CVN 76)	30.69	4	0.46	0
USS THEODORE ROOSEVELT (CVN 71)	88.19	21	0.73	0
TOTAL	**77.89**	**96**	**0.34**	**0**

* Percentages may reflect testing of non-assigned personnel or retesting as a result of identified suspect TB cases.

Table 4. Details of 2003 Reports received from Large Deck Amphibious Vessels (including LHDs and LHAs)

Command Reporting	Percent Tested*	New Reactors Identified	TST Conversion Rate (%)	Active TB Cases
USS BATAAN (LHD 5)	104.31	4	0.37	0
USS BELLEAU WOOD (LHA 3)	85.75	1	0.11	0
USS BON HOMME RICHARD (LHD 6)	168.63	16	0.8	0
USS BOXER (LHD 4)	71.7	5	0.65	0
USS ESSEX (LHD 2)	102.73	6	0.55	0
USS IWO JIMA (LHD 7)	98.6	34	3.01	0
USS KEARSARGE (LHD 3)	98.32	13	1.17	0
USS NASSAU (LHA 4)	89.17	5	0.49	0
USS PELELIU (LHA 5)	194.24	5	0.26	0
USS SAIPAN (LHA 2)	97.46	4	0.43	0
USS TARAWA (LHA 1)	67.32	8	1.01	0
USS WASP (LHD 1)	103.49	1	0.09	0
TOTAL	**106.41**	**102**	**0.71**	**0**

* Percentages may reflect testing of non-assigned personnel or retesting as a result of identified suspect TB cases.

Table 5. Details of 2003 Reports received from Reporting Marine Corps Units

Command Reporting	Percent Tested*	New Reactors Identified	TST Conversion Rate (%)	Active TB Cases
2ND FSSG, NC	62.97	32	0.61	0
2ND MARDIV, NC	101.18	120	1.01	0
2ND MAW, CHERRY POINT, NC	87.34	152	1.2	0
BMC MCRD PARRIS ISLAND, SC	100.08	71	0.34	0
CBR UNIT II MEF	100	0	0	0
NH CAMP LEJEUNE, NC	108.75	10	0.95	0
NH CHARLESTON, SC	784.39	17	0.69	0
BMC 31 EDSON RANGE	69.46	2	0.45	0
BMC INFANTRY (SOI) CAMP PENDLETON	69.38	0	0	0
3RD MAW	82	5	0.88	0
TOTAL	**94.76**	**409**	**0.73**	**0**

* Percentages may reflect testing of non-assigned personnel or retesting as a result of identified suspect TB cases.

Table 6. Details of 2003 Reports received from Major MTF's Navy Wide

Command Reporting	Percent Tested*	New Reactors Identified	TST Conversion Rate (%)	Active TB Cases
NAVMEDCNTR PORTSMOUTH, VA	80.04	36	1.36	0
NAVMEDCNTR SAN DIEGO	256.87	130	1.46	0
NAVHOSP BEAUFORT, SC (STAFF)	58.14	0	0.00	0
NAVHOSP BEAUFORT, SC (RECRUITS)	95.34	71	0.34	0
NAVHOSP BREMERTON	56.17	26	4.76	1
NAVHOSP CAMP LEJEUNE, NC	108.75	10	0.95	0
NAVHOSP CAMP PENDLETON	72.29	1	0.12	0
NAVHOSP CHARLESTON, SC	784.39	17	0.69	0
NAVHOSP CHERRY POINT, NC	DID NOT REPORT			
NAVHOSP CORPUS CHRISTI, TX	1,378.79	33	1.45	0
NAVHOSP GUANTANAMO BAY, CUBA	58.57	5	1.25	0
NAVHOSP JACKSONVILLE, FL	53.67	27	0.52	1
NAVHOSP KEFLAVIK, ICELAND	82.01	19	2.14	0
NAVHOSP LEMOORE	DID NOT REPORT			
NAVHOSP OAK HARBOR	45.42	46	1.13	0
NAVHOSP PENSACOLA, FL	17.05	47	1.71	0
NAVHOSP ROOSEVELT ROADS	177.68	2	0.12	0
NAVHOSP TWENTY NINE PALMS	108.31	6	0.47	0
NAVHOSP, GREAT LAKES	97.65	10	1.05	1
NMC PEARL HARBOR	19.28	128	1.20	0
NNMC BETHESDA, MD	102.45	57	1.39	0
USNH GUAM	75.19	11	1.11	0
USNH NAPLES, ITALY	40.01	34	2.91	0
USNH OKINAWA	100.00	6	0.83	0
USNH ROTA, SPAIN	87.88	31	1.52	1
USNH SIGONELLA, ITALY	52.72	8	0.46	0
USNH YOKOSUKA	DID NOT REPORT			
TOTAL	**55.28**	**761**	**0.97**	**4**

Vaccine Adverse Event Reporting System (VAERS) Update

Table 1 displays the total Anthrax VAERS reports submitted by each service to the Army Medical Surveillance Activity through 30 September 2004 in support of the Anthrax Vaccine Immunization Program. Reactions are classified per DoD Memorandum 15 October 1999, Policy for Reporting Adverse Events Associated with the Anthrax Vaccine. Table 2 displays all VAERS reports, by vaccine type, submitted to NEHC through 30 September 2004. Reactions are classified using adverse event guidelines of the Centers for Disease Control and Prevention. Table 1 includes active duty personnel only while Table 2 includes Navy and Marine Corps active duty and beneficiaries.

Table 1. Anthrax Vaccine Immunization Program VAERS Cumulative Data by Service, Active Duty Members (28 Aug 1998 - 30 Sep 2004)

Service	Classification				
	Local Reaction			Systemic Reaction	Cum. Totals
	Mild	Moderate	Severe		
USA	34	36	15	89	174
USN	9	21	11	70	111
USAF	37	79	58	410	584
USMC	1	13	3	20	37
USCG	0	1	0	0	1

*Excludes 4 VAERS Reports on Anthrax and Non-DoD Reports

Table 2. Navy and Marine Corps VAERS Cumulative Data by Vaccine Type, Active Duty and Beneficiaries (01 Dec 2002 - 30 Sep 2004)

Vaccination/Event	Classification		
	Serious*	Non-Serious*	Cum. Totals
Anthrax	1	44	45
Smallpox	12	95	107
Anthrax + Smallpox	5	12	17
Other	2	24	26
Cum. Totals	20	175	195

* CDC defines serious adverse events as death, life-threatening illness, hospitalization or prolongation of hospitalization, or permanent disability. A non-serious adverse event then includes any other adverse event reported (<http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5201a1.htm>)

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